



# NASA Procedural Requirements

**COMPLIANCE IS MANDATORY****NPR 8580.1**Effective Date: November 26,  
2001Expiration Date: November  
26, 2008[Printable Format \(PDF\)](#)

---

## Subject: Implementing The National Environmental Policy Act And Executive Order 12114

**Responsible Office: Environmental Management Division**

[| TOC](#) | [Preface](#) | [Chp1](#) | [Chp2](#) | [Chp3](#) | [Chp4](#) | [Chp5](#) | [Chp6](#) | [Chp7](#) | [Chp8](#) | [Chp9](#) | [Chp10](#) | [Chp11](#) | [Chp12](#) | [Chp13](#) | [AppdxA](#) | [AppdxB](#) | [AppdxC](#) | [AppdxD](#) | [AppdxE](#) | [AppdxF](#) | [AppdxG](#) | [AppdxH](#) | [AppdxI](#) | [AppdxJ](#) | [AppdxK](#) | [AppdxL](#) | [ALL](#) |

---

## CHAPTER 8. How to Write Better Environmental Assessments and Environmental Impact Statements

---

### 8.1 Introduction

- a. Chapter 5 on EA's and chapter 6 on EIS's define the required format and provide guidance for each document. This chapter provides additional guidance and advice for preparing these NEPA documents.
- b. Writing better NEPA documents involves attention to the procedural requirements of the Act, associated CEQ regulations, and NASA regulations (see chapters 1 through 6); involvement of appropriate interdisciplinary technical preparers and analysts; creation and maintenance of an adequate administrative record (see section 3.7.7); and organizational skills.
- c. Write the NEPA document to inform the decisionmaker and the public. Achieve a balance between using plain language and accurately portraying the technical complexity of the issues.

### 8.2 Overall Guidance for Writing EA's and EIS's

A review of chapters 5 and 6 indicates that in terms of format and content, the two documents are similar. The principal differences lie in the breadth and depth of content. Remember, the evaluation in an EA is designed to present information sufficient to determine whether there may be significant impacts that merit more detailed study, analysis, and public input. An EIS presents the results of the detailed study and analysis and attempts to rigorously measure and present the nature and level of potential significance.

- a. Table 8-1 illustrates the required chapters of an EA and EIS.
- b. Table 8-2 provides a summary of general advice for those required chapters common to EA's and EIS's.

Table 8-1. Required Chapters of an EA and EIS Based on  
CEQ and NASA NEPA Regulations

Chapter	EA	EIS
Title Page	X <sup>1</sup>	X
Cover Sheet	X	X
Abstract	2	X
Executive Summary	3	X

Table of Contents	X	X
Abbreviations/Acronyms/Unit Conversions	3	X
Glossary of Terms/Definitions	3	3
Purpose and Need for the Action	X	X
Description and Comparison of Alternatives	X	X
Description of the Affected Environment	4	X
Environmental Consequences	X <sup>5</sup>	X
References	X	X
List of Preparers	2	X
Agencies, Organizations, and Individuals Consulted	6	X
Index	2	X
Appendices, if any	2	X

1 X indicates a requirement of CEQ and NASA NEPA regulations.

2 Not required by either CEQ or NASA NEPA regulations.

3 Not required, but recommended.

4 A required element of this NPG.

5 Can be combined with the Affected Environment chapter.

6 Titled Agencies and Persons Consulted.

Table 8-2. Summary Preparation Guidance Common to Environmental Assessments and Environmental Impact Statements

EA or EIS Chapter	CEQ Regulations	Guidance
Executive Summary	40 CFR §1502.12	<p>The summary should describe the content of the document, including the underlying purpose and need, the proposed action, each alternative, and the principal environmental issues analyzed with results.</p> <ul style="list-style-type: none"> <li>• Optional per CEQ; required by NASA.</li> <li>• Make data and discussions consistent with what is in the main body of text.</li> <li>• Address the entire EA or EIS, focus on the whole.</li> <li>• Summarize the alternatives, significant environmental impacts, and controversial and unresolved issues.</li> <li>• The Final EIS must identify the preferred alternative and summarize the basis for its selection.</li> </ul>

Purpose and Need for the Action	40 CFR §1502.13	<p>The purpose of the proposed action is to further the need of the Agency, not to perform the action itself. Other agencies refer to this chapter of an EA or EIS as Introduction; NASA retains and uses the title suggested in CEQ regulations. This chapter should answer what the proposed action does to further the mission of the Sponsoring Entity (i.e., why the Sponsoring Entity must involve itself in this endeavor to meet some mission objective or goal).</p> <ul style="list-style-type: none"><li>• Define who wants to do what, where and why the Federal Agency is proposing the action.</li><li>• Demonstrate that an Agency need exists.</li><li>• Explain the linkage if applicable to other NEPA documentation.</li><li>• Introduce scoping activities (normally only for an EIS).</li><li>• Define the decisions that need to be made.</li><li>• Provide a paragraph on agencies and members of the public involved in the action.</li><li>• List those agencies or requirements that may be necessary to perform the proposed action (e.g., if permitting requirements are necessary).</li></ul>
---------------------------------	-----------------	--

Description and Comparison of Alternatives	40 CFR §1502.14	<p>Chapter describes the alternatives, including the proposed action and the No-Action alternative, and summarizes the potential environmental consequences of those actions.</p> <p><u>Common Guidance to both EAs and EISs</u></p> <ul style="list-style-type: none"> <li>• Use alternative descriptions that are site-specific. Use graphics where applicable.</li> <li>• Consolidate common implementing actions and or requirements between the alternatives. Describe differences in detail.</li> <li>• Use future conditional tense when describing the alternatives and their potential consequences.</li> <li>• Describe alternatives eliminated from detailed study. Explain why they were eliminated.</li> </ul> <p><u>EIS only</u></p> <ul style="list-style-type: none"> <li>• Identify the range of reasonable alternatives that satisfies the Agency's purpose and need.</li> <li>• Sharply define the differences between the alternatives, including the proposed action and the No-Action alternative.</li> <li>• Use short alternative titles or descriptors for reading ease.</li> <li>• Include reasonable alternatives outside the jurisdiction of the proposing Agency. Issues of illegality are changeable; what is illegal now may not be so in the future.</li> <li>• Present the environmental impacts of the proposed action and alternatives in a comparative form (e.g., tabular, or in a comparative matrix).</li> <li>• Identify the preferred Agency alternative for an EIS (optional for EA).</li> </ul> <p><u>EA only</u></p> <ul style="list-style-type: none"> <li>• Focuses on proposed action and No-Action alternative. Detailed alternatives analysis may not be warranted in certain instances depending on potential environmental impacts.</li> </ul>
--	-----------------	---

Description of the Affected Environment	40 CFR §1502.15	<p>Affected environment should describe existing conditions or baseline data against which the potential impacts can be measured. The affected environment should cover a broad range of environmental factors. Gathering data for this chapter is time consuming. Start early in defining information resources. Organize by resource or alternative.</p> <ul style="list-style-type: none"> <li>• Evaluate potential environmental impacts of the proposed action and the analyzed alternatives.</li> <li>• Use current site-specific information. Determine the area of specific concern. Limit discussion of resources to this area.</li> <li>• Illustrate detailed baseline data (e.g., provide graphics and tables), consolidating when applicable. Describe differences in detail.</li> <li>• Quantify data if applicable.</li> <li>• Provide consistent treatment of all environmental factors for all alternatives.</li> <li>• Match level of detail for environmental factors to the magnitude and severity of impacts on each environmental category. If impacts are minor, provide enough detail in the description of that factor to substantiate impact level.</li> <li>• Keep all background material (including copies of references used) and data available for the administrative record.</li> <li>• Incorporate by reference, where applicable, to reduce bulk and repetition with other NEPA documentation.</li> <li>• Describe sensitive receptors that are present in the area and may be affected by the proposed action or the analyzed alternatives.</li> </ul>
Environmental Consequences	40 CFR §1502.16 and §1508.7	<p>Environmental consequences chapter should parallel the organization used in the Affected Environment chapter. Organize consequences by resource or by alternative.</p> <ul style="list-style-type: none"> <li>• Choose the organization type that best suits your specific project.</li> <li>• Introduce the reader to the chapter by explaining that, it is the scientific and analytic basis for the comparison of the alternatives.</li> <li>• Cover all affected resources factors; preserve greatest detail for those resources that are most affected (identified in affected environment chapter). Address environmental impacts in proportion to their</li> </ul>

potential environmental effects and impacts analysis and discussion on the actions that have significant or potentially significant impacts.

- Begin with the actions (i.e., causes); analyze the potential effects direct, indirect, as well as cumulative. Explain the cause-and-effect relationship between the action and its impact. Do not simply provide the end-result.
- Determine the area of impact, and be sure that all visual aids and discussions use this area of impact.
- Quantify the effects as much as possible.
- Be careful when using the words significant or not significant. These words carry substantial weight in the context of NEPA. Use of the word significant in an EA can signify the potential for an EIS or prejudgement.
- Determine the effects for all reasonable alternatives considered, including the No-Action alternative.
- Detail the mitigative measures for all alternatives where applicable.
- Incorporate by reference, where applicable, to reduce bulk and repetition with other NEPA documentation.
- Determine and state the unavoidable adverse impacts from each alternative.
- Provide sufficient data and references to allow for review and validation of analysis methods. Be sure that all conclusory statements are substantiated by the analysis in the text.
- Impact analyses should use accepted methodologies; if innovative methodologies are used, consider using an appendix to explain them. Be prepared to defend them if challenged.
- Provide for the cumulative effects of each alternative. For EA's, this needs to be formally addressed only in appropriate instances.

#### EIS only

- Detail the balance or trade offs between the short-term uses and long-term productivity for each alternative.
- List the irreversible and irretrievable commitments of resources associated with every alternative.
- Identify incomplete and unavailable information as it applies to the analysis. NEPA is a full disclosure

		statute.
References	No guidance	<ul style="list-style-type: none"> <li>• Use full sources for citations so that decisionmakers or members of the public can locate the reference if necessary.</li> <li>• Cite classified references as such.</li> <li>• Make the bibliography as uniform as possible; use the most up-to-date references.</li> <li>• If at all practicable, cite personal communications or unpublished data only as sources of information, not as support for conclusions regarding the significance of impacts. Document telephone or types of nonwritten communication contemporaneously or shortly after and provide a written record to the participant(s).</li> </ul>
List of Preparers	40 CFR §1502.17	<p>List of preparers should include the names and contributions of each author.</p> <p><u>EIS only</u></p> <ul style="list-style-type: none"> <li>• If applicable, distinguish between core writing team members and those individuals who submitted backup or supporting studies.</li> <li>• Identify the specific sections written by each member of the interdisciplinary team. Use a table for ease in reading.</li> <li>• The list should include the qualifications of each person.</li> </ul>
Agencies, Organizations, and Individuals Consulted	40 CFR § 1508.9 (b), 40 CFR §1502.19	<p>Distributing the NEPA document assures full and honest notification and disclosure of the Agency's desire to act.</p> <ul style="list-style-type: none"> <li>• Keep an organized list of all agencies, organizations, and persons to whom copies of the NEPA document are sent. (Publication in an EA is optional.)</li> <li>• Make a list of all agencies, organization, and individuals outside of NASA who have contributed any information and/or consulted on the project.</li> </ul> <p><u>EA only</u></p> <ul style="list-style-type: none"> <li>• Chapter title should read Agencies and Persons Consulted.</li> </ul>

Index	40 CFR §1502.10	<p>Index chapter should reflect NEPA terms and important concepts, including controversial issues for which decisionmakers and/or members of the public could be interested.</p> <ul style="list-style-type: none"><li>• Index is required for an EIS.</li><li>• Make the index detailed enough so that it is useful for readers.</li><li>• Use see also or refer to for those index citations that are listed elsewhere.</li></ul>
Appendices	40 CFR §1502.18	<p>Appendices are optional and should consist of material prepared in connection with the written NEPA document.</p> <ul style="list-style-type: none"><li>• Limit appendices to essential material for understanding the NEPA document. Full text from a supporting study may be used.</li><li>• Generally technical in nature. While they should be readable for the general public, they may be written in greater technical detail to support or substantiate analyses found in the body of the NEPA document.</li><li>• Consultation letters and memorandum associated with the project may be included as an appendix.</li></ul>



Response to Comments	40 CFR §1503.4	<p>Develop a plan for responding to comments early in planning the NEPA process.</p> <ul style="list-style-type: none"> <li>• Keep a clean master copy of the comment letters and catalogue by date of receipt.</li> <li>• Screen all comment letters for the environmental issues raised. Determine issues raised in each comment letter.</li> <li>• Respond seriously to every comment; comments not relevant to environmental (or socioeconomic) issues need only to be so noted.</li> <li>• Comments that are not within the scope of NEPA process should be responded to as not in scope.</li> </ul> <p><u>EIS only</u></p> <ul style="list-style-type: none"> <li>• Responses to Comments chapter can be an appendix or a separate volume in the Final EIS.</li> <li>• Complete letters should be attached to the Final EIS whether or not the comment is deemed relevant unless there are a large number of letters saying essentially the same thing. In such a case, the comments can be summarized.</li> <li>• When changes in response to comments on the Draft EIS are minor, errata sheets may be used, and can be attached to the Final EIS document instead of rewriting the draft document. See 40 CFR §1503.4(c).</li> </ul>
----------------------	----------------	---

| [TOC](#) | [Preface](#) | [Chp1](#) | [Chp2](#) | [Chp3](#) | [Chp4](#) | [Chp5](#) | [Chp6](#) | [Chp7](#) | [Chp8](#) | [Chp9](#) | [Chp10](#) | [Chp11](#) | [Chp12](#) | [Chp13](#) | [AppdxA](#) | [AppdxB](#) | [AppdxC](#) | [AppdxD](#) | [AppdxE](#) | [AppdxF](#) | [AppdxG](#) | [AppdxH](#) | [AppdxI](#) | [AppdxJ](#) | [AppdxK](#) | [AppdxL](#) | [ALL](#) |

| [NODIS Library](#) | [Program Management\(8000s\)](#) | [Search](#) |

#### **DISTRIBUTION:** **NODIS**

---

#### **This Document Is Uncontrolled When Printed.**

Check the NASA Online Directives Information System (NODIS) Library to Verify that this is the correct version before use: <http://nodis3.gsfc.nasa.gov>

---